



**Definition:**

*Financial benefits*  
*Energy*

**Description**

**Benefit:** This impact area assesses benefits via their appreciation by markets (Di Maio et al., 2017). It is sensitive to various socio-economic factors because commodity prices reflect demand and are also influenced by value systems and policies through effects of financial incentives and tax regulations.

**Resource:** The use of energy usually refers to inputs of fuel or electricity. Solar irradiation is not considered because it is not a stressed resource, but also because the amount of this natural input would dwarf out all other energy inputs. Furthermore, energy from human or animal labour is usually not considered, although some studies explicitly include it (Arodudu et al., 2017).

**Correlation with soil management**

[255] Paper anticipated that in long-term agricultural activity would gradually contract in currently better developed countries and energy intensity in agricultural sector should gradually diminish

**Strength & weaknesses pertaining to measurement of this impact area**

**Financial Benefits:** Financial indicators are well suited for integrating or comparing agricultural production processes with products for very different end uses. For calculating benefit-cost ratios (BCR), indicators that reflect revenue should be used. In most other cases, indicators that reflect net benefits (after deduction of charges, costs and expenses) provide a more realistic picture of benefits generated. Price volatilities make efficiency calculations valid only for a certain point in time and space.

**Energy:** For this indicator, a number of standard values for agricultural management are readily available. LCA inventories even provide standard values for energy used in precursory processes.

If the (fossil) energy input is used as a proxy for greenhouse gas emission, it is necessary to also consider the share of non-energy related GHG emission sources like drained soils or nitrous oxide from fertilizers.

**Can be measured as:**

**Financial Benefits:**

- revenue [\$]
- gross profit [\$]



- farmers' net income [€]

**Energy:**

- total energy use [J]
- energy use from non-renewable sources [J]

**Sample Indicators**











Indicator values from		Survey	
Experiment or direct measurement		Statistical- or census data	
Expert assessment		Literature values	
Model		Maps or GIS	
Stakeholder participation		Not provided	

Table 1: Global Scale

Indicator	Unit	Indicator values from
<sup>[255]</sup> Energy intensity (One European Euro/Amount of energy used)	€ * ton <sup>-1</sup>	

**References**

ID	Citation	<sup>1</sup> Soil type/ texture
255	Tvaronavičiene, M., et al. (2017). "Energy security and long-term energy efficiency: Case of selected counties." <u>Journal of Security and Sustainability Issues</u> 7(2): 349-357.	n/a

<sup>1</sup>Soil type/ texture: If provided, what are type and texture of the soils studied in the paper?